

REPORT ON MACHINERY.

No. 8359.
WED. JUL. 7 1920

Received at London Office

Date of writing Report 6 July 20 When handed in at Local Office

Port of Belfast

No. in Survey held at Belfast
Reg. Book.

Date, First Survey 1918 April 5

Last Survey 30 June 1920.

(Number of Visits 51)

on the S.S. New Columbia

Master J. R. Gurnow

Built at Belfast

By whom built Harland & Wolff L

Tons Gross 6574
Net 4044

When built 1920

Engines made at Belfast

By whom made

when made

Boilers made at

By whom made

when made

Registered Horse Power 518

Owners Hecan S.S. Coy L^d

Port belonging to London

Nom. Horse Power as per Section 28 518

517

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines

Single Screw Triple Expansion Cylinders 3

No. of Cranks 3

Dia. of Cylinders 27"-44"-73"

Length of Stroke 48"

Revs. per minute 79

Dia. of Screw shaft

as per rule 14.76

Material of I. Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes

Is the after end of the liner made water tight

in the propeller boss Yes

If the liner is in more than one length are the joints burned

If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

If two

liners are fitted, is the shaft lapped or protected between the liners

Length of stern bush 63"

Dia. of Tunnel shaft

as per rule 13.43

Dia. of Crank shaft journals

as per rule 13.99

Dia. of Crank pin 14 1/4"

Size of Crank webs 28" x 9"

Dia. of thrust shaft under

collars 15"

Dia. of screw 17'-9"

Pitch of Screw 16'-6"

No. of Blades 4

State whether moveable No

Total surface 100 sq ft.

No. of Feed pumps 2

Diameter of ditto 4 1/2"

Stroke 24"

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 4 1/2"

Stroke 24"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines

See Size of these sheet

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4-3 1/2"

In Holds, &c. 8-3 1/2" 2-4 1/2" 1-3" 6-2 1/2"

No. of Bilge Injections 1

size 13"

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size Yes-3 1/2"

Are all the bilge suction pipes fitted with roses

Yes Are the roses in Engine room always accessible

Yes Are the sluices on Engine room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship

Yes-Except Main Tank Injections

Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

Yes

Are the Discharge Pipes above or below the deep water line Below

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

Yes

Are the Blow Off Cocks fitted with a spigot and brass covering plate

Yes

What pipes are carried through the bunkers Fore hold Suctions

How are they protected Iron Casings

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

Yes

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from Upper deck

BOILERS, &c.—(Letter for record 7668)

Manufacturers of Steel D. Colville Sons L^d

Total Heating Surface of Boilers 7668 sq ft

Forced Draft fitted

Yes

No. and Description of Boilers 3 Single End Cylind^r

Working Pressure 180 lbs

Tested by hydraulic pressure to 360 lbs

Date of test 12-3-20

No. of Certificate 5-67

Can each boiler be worked separately

Yes

Area of fire grate in each boiler 63 1/2 sq ft

No. and Description of Safety Valves to

each boiler 2 Direct Spring

Area of each valve 9.62 sq

Pressure to which they are adjusted 185 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

14" Butt

Mean dia. of boilers 15'-6"

Length 11'-6"

Material of shell plates Steel

Thickness 1 1/2"

Range of tensile strength 28-32 tons

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams Lap

long. seams

Butt

Diameter of rivet holes in long. seams 1 5/16"

Pitch of rivets 9 1/2"

Lap of plates or width of butt straps 19 1/2"

Per centages of strength of longitudinal joint

rivets 88.1

plate 85.6

Working pressure of shell by rules 182 lbs

Size of manhole in shell 16" x 13"

Size of compensating ring

Plate Flange

No. and Description of Furnaces in each boiler 3 Direct

Material Steel

Outside diameter 50 1/2"

Length of plain part

top 6"

Thickness of plates

crown 3 1/8"

Description of longitudinal joint

Weld

No. of strengthening rings

11"

Top 23 1/2"

Bottom 23 1/2"

Working pressure of furnace by the rules 180 lbs

Combustion chamber plates: Material Steel

Thickness: Sides 3 1/2"

Back 1 1/2"

Top 23 1/2"

Bottom 23 1/2"

Working pressure by rules 180 lbs

End plates in steam space:

Pitch of stays to ditto: Sides 10 5/8" x 9 1/4"

Back 10 5/8" x 8 3/4"

Top 10 5/8" x 9 1/4"

Bottom 10 5/8" x 8 3/4"

Are stays fitted with nuts or riveted heads

Nuts

Working pressure by rules 180 lbs

Material of stays Steel

Material of stays Steel

Area at smallest part 2.39 sq ft

Area supported by each stay 98 1/2 sq

Working pressure by rules 186 lbs

End plates in steam space:

Material Steel

Thickness 1 1/2"

Pitch of stays 2 1/2" x 2 1/2"

How are stays secured

Nuts

Working pressure by rules 180 lbs

Material of stays Steel

Area at smallest part 8.29 sq ft

Area supported by each stay 45 1/2 sq

Working pressure by rules 187 lbs

Material of Front plates at bottom Steel

Thickness 3 1/2"

Material of Lower back plate Steel

Thickness 3 1/2"

Greatest pitch of stays 13 1/8"

Working pressure of plate by rules 189 lbs

Diameter of tubes 2 1/2"

Pitch of tubes 4" x 3 1/2"

Material of tube plates Steel

Thickness: Front 3 1/2"

Back 3"

Mean pitch of stays 12" x 7 1/2"

Pitch across wide water spaces 13 1/8"

Working pressures by rules 181 lbs

Girders to Chamber tops: Material Steel

Depth and

thickness of girder at centre 10" x (8" x 2)

Length as per rule 35 1/2"

Distance apart 10 5/8"

Number and pitch of stays in each 3-9 1/4"

Working pressure by rules 182 lbs

Steam dome: description of joint to shell

%

of strength of joint

Diameter

Thickness of shell plates

Material

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

SUPERHEATER. Type

Date of Approval of Plan

Tested by Hydraulic Pressure to

Date of Test

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

Lloyd's Register

Foundation

W1200-011A-2

IS A DONKEY BOILER FITTED? *No*
 SPARE GEAR. State the articles supplied:— *See separate sheet*

The foregoing is a correct description,

FOR HARKNESS & WOLFF LMS.

F. E. Lebeck

Manufacturer.

Dates of Survey
 During progress of work in shops --
 During erection on board vessel --
 Total No. of visits

1918 Apr 5, Nov 4, 19, 25, Dec 2, 1919 Jan 1, 7, 20, Mar 11, 26, Apr 9, 16, 28, May 20, 30, July 1, 31, Aug 20, 25, Sep 4, Oct 13, 16, 23, Nov 7, 14, Feb 3, 6, 12, Mar 2, 3, 10, 12, 18, 19, 22, 31, Apr 8, 12, 14, 22, 30, May 10, 19, 26, June 3, 10, 21, 24, 25, 28, 30.

Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *1-3-20* Slides *12-18* Covers *1-3-20* Pistons *1-3-20* Rods *1-3-20*
 Connecting rods *1-3-20* Crank shaft *1-3-20* Thrust shaft *1-3-20* Tunnel shafts *1-3-20* Engines holding down bolts *1-3-20*
 Stern tube *1-3-20* Steam pipes tested *1-3-20* Engines and boiler seatings *1-3-20* Engines tried under steam *1-3-20*
 Completion of pumping arrangements *1-3-20* Boilers fixed *1-3-20* Engines tried under steam *1-3-20*
 Completion of fitting sea connections *1-3-20* Stern tube *1-3-20* Screw shaft and propeller *1-3-20*
 Main boiler safety valves adjusted *1-3-20* Thickness of adjusting washers *1-3-20*
 Material of Crank shaft *1-3-20* Identification Mark on Do. *1-3-20* Material of Thrust shaft *1-3-20* Identification Mark on Do. *1-3-20*
 Material of Tunnel shafts *1-3-20* Identification Marks on Do. *1-3-20* Material of Screw shafts *1-3-20* Identification Marks on Do. *1-3-20*
 Material of Steam Pipes *1-3-20* Test pressure *1-3-20*
 Is an installation fitted for burning oil fuel *Yes* Is the flash point of the oil to be used over 150° F. *Yes*

Have the requirements of Section 49 of the Rules been complied with *Yes* Except oil fuel installation *Yes*
 Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *S.S. New Brooklyn*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules. The workmanship and the materials are of good description, and on trial in Belfast Lough, the machinery worked satisfactorily. In our opinion, it is eligible for records + L.M.C. 6-20, with notation "Forced Draft" "Extra Light" and "Fitted for oil fuel F.P. above 150° F."

The machinery is of the N Standard Type.

It is submitted that this vessel is eligible for THE RECORD + LMC 6.20. F.D. Fitted for oil fuel 6.20. F.P. above 150° F.

John Pallock
R. L. Bewridge
 Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 3 - -
 Special ... £ 45 - -
 Donkey Boiler Fee ... £ - -
 Travelling Expenses (if any) £ - -

When applied for, 5.7.1920
 When received, 18.9.20

Committee's Minute
 Assigned *MACHINERY DEPT. WRITTEN*
 + LMC 6.20 7.0
 Fitted for oil fuel 6.20 7.0 above 150° F.

Rpt. 9a.

Port of

Belfast

Continuation of Report No. 8359 dated 6th July 1920 on the

S.S. New Columbia

Principal Items of Spare Gear
 2 Connecting Rod top end bolts + nuts ✓
 2 - - - - - Bottom - - - - - ✓
 8 Shaft coupling bolts + nuts ✓
 4 Feed & Bilge Pump valves ✓
 6 Barker feed check valves ✓
 50 Bolts + nuts assorted & Iron bars, various ✓
 1 Propeller, P. Iron solid ✓
 12 Condenser tubes + 50 fannels ✓
 Set air pump valves ✓
 Packing rings for piston valve rods ✓
 12 Barker tubes, plain. ✓
 Spare gear for donkey pumps etc. ✓
 - Oil fuel burning gear -
 3 White patent Burners + 36 tips ✓
 6 Burner Springs ✓
 3 - supply valves + 3 supply pipes ✓
 2 Filter baskets ✓
 3 Flame Controls ✓
 3 Jacket tubes ✓
 3 Brass Cased Thermom. ✓

List of Pumps
 Main Centrifugal Oil Pump 18" bore ✓
 1 General 9 1/2" x 7" x 18" ✓
 1 Ballast 10 1/2" x 14" x 24" ✓
 1 Fresh Water 3" x 3" x 4" ✓
 2 Feed 9 1/2" x 7" x 18" ✓
 2 Oil Fuel pumps 5" x 3 1/2" x 9" ✓
 1 - Transfer - 7" x 8" x 18" ✓

R. L. Bewridge